

## AMENDMENTS TO THE CLAIMS

Please replace the pending claims with the following claim listing:

1.     **(Currently Amended)** A semiconductor optical modulator ~~having~~ comprising:  
a layered structure in which a semi-insulating type cladding layer, a semiconductor optical waveguide core layer, and a semi-insulating type cladding layer are sequentially laminated on a substrate,  
wherein a part of at least one of the semi-insulating type cladding layers including a surface opposite from a laminated surface with the semiconductor optical waveguide core layer is an n-type cladding layer, or all of at least one of the semi-insulating type cladding layers is an n-type cladding layer.
2.     **(Previously Presented)** The semiconductor optical modulator according to claim 1, wherein the modulator has a waveguide structure that is a high-mesa waveguide structure or a ridge waveguide structure.
3.     **(Previously Presented)** The semiconductor optical modulator according to claim 1, further comprising electrodes that are respectively connected to the n-type cladding layer or the semi-insulating type cladding layer placed directly on the substrate and to the n-type cladding layer or the semi-insulating type cladding layer including a surface opposite from a laminated surface with the semiconductor optical waveguide core layer laminated on the substrate, and voltage is applied.
4.     **(Previously Presented)** The semiconductor optical modulator according to claim 3, wherein the electrodes are configured to be a coplanar waveguide line structure.

5. **(Previously Presented)** A semiconductor Mach-Zehnder type optical modulator comprising:

the semiconductor optical modulator according to claim 1,  
an optical splitter by which input light is split into two light beams, and  
an optical coupler by which light beams modulated by the semiconductor optical modulator are combined together.

6. **(Withdrawn)** A semiconductor optical modulator having a layered structure in which an n-type cladding layer, an optical waveguide core layer, and an n-type cladding layer are sequentially laminated on a substrate, wherein a semi-insulating type cladding layer is laminated between at least one of the n-type cladding layers and the optical waveguide core layer.

7. **(Withdrawn)** The semiconductor optical modulator according to claim 6, wherein the modulator has a waveguide structure that is a high-mesa waveguide structure or a ridge waveguide structure.

8. **(Withdrawn)** The semiconductor optical modulator according to claim 6, further comprising electrodes that are respectively connected to the n-type cladding layer or the semi-insulating type cladding layer placed directly on the substrate and to the n-type cladding layer or the semi-insulating type cladding layer including a laminated surface with the semiconductor optical waveguide core layer and said opposite surface laminated on the substrate, and voltage is applied.

9. **(Withdrawn)** The semiconductor optical modulator according to claim 8, wherein the electrodes are configured to be a coplanar waveguide line structure.

10. **(Withdrawn)** A semiconductor Mach-Zehnder type optical modulator comprising:  
the semiconductor optical modulator according to claim 6,  
an optical splitter by which input light is split into two light beams, and  
an optical coupler by which light beams modulated by the semiconductor optical modulator are combined together.

11.     **(New)** A semiconductor optical modulator comprising:  
a substrate;  
a first semi-insulating cladding layer laminated on the substrate;  
a semiconductor optical waveguide core layer laminated on the first semi-insulating type cladding layer; and  
a second semi-insulating cladding layer laminated on the semiconductor optical waveguide core layer, at least a portion of the first or second semi-insulating cladding layers comprising an n-type cladding structure.
12.     **(New)** The semiconductor optical modulator recited in claim 11, wherein each of the first and second semi-insulating cladding layers comprises a first surface disposed adjacent to the semiconductor optical waveguide core layer and an opposing second surface, and wherein the second surface of at least one of the first and second semi-insulating cladding layers comprises an n-type cladding structure.
13.     **(New)** The semiconductor optical modulator recited in claim 11, wherein all of at least one of the first or second semi-insulating cladding layers comprises an n-type cladding structure.
14.     **(New)** The semiconductor optical modulator recited in claim 11, wherein the semiconductor optical modulator comprises a waveguide structure that is a high-mesa waveguide structure or a ridge waveguide structure.
15.     **(New)** The semiconductor optical modulator recited in claim 11, further comprising:  
a first electrode connected to the first semi-insulating cladding layer; and  
a second electrode connected to the second semi-insulating cladding layer.

16.     **(New)** A semiconductor Mach-Zehnder type optical modulator comprising:  
the semiconductor optical modulator recited in claim 11;  
an optical splitter by which input light is split into two light beams; and  
an optical coupler by which light beams modulated by the semiconductor optical  
modulator are combined together.